

Abstract

N-deoxyribosyl transferases of *Lactobacillus fermentum* and their analogues, as well their use for the enzymatic synthesis of 2',3'-dideoxynucleosides and 2',3'-didehydro-2',3'-dideoxynucleosides. These transferases and their analogues include a N-deoxyribosyl transferase protein (DTP) that has at least 70%-95% identity with the polypeptide of SEQ ID NO: 2 or SEQ ID NO: 4, that retains residues Y13, D77, D97, E103, and M312 which respectively correspond to positions 13, 77, 97, 103, and 132 of SEQ ID NO: 2; and that has threonine at a position corresponding to position 15 of SEQ ID NO: 2 or SEQ ID NO: 4. Polynucleotides, vectors and host cells encoding these N-deoxyribosyl transferases and their analogues.